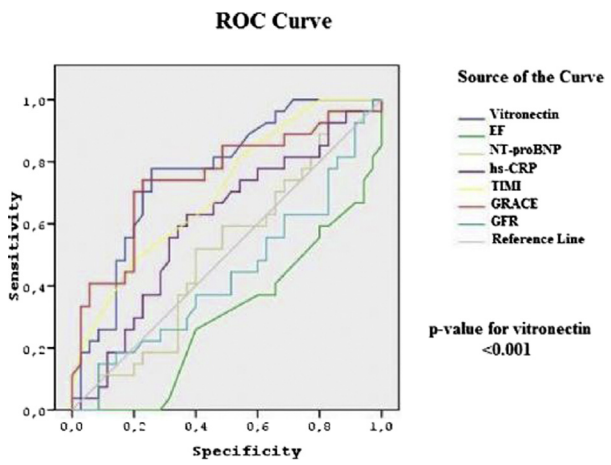


**PP-336**

**The Relationship between Gamma Glutamyl Transferase Levels and the Clinical Outcomes in Patients with ST-Segment Elevation Myocardial Infarction Undergoing Primary PCI**

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**Objectıves:** Serum gamma glutamyl transferase (GGT) activity has been shown to be related to the development of atherosclerosis and cardiovascular events. The aim of this study was to evaluate the prognostic value of GGT in patients with ST-segment elevation myocardial infarction (STEMI) undergoing primary percutaneous coronary intervention (PCI).
**Methods:** A total of 683 consecutive patients with STEMI who underwent primary PCI were evaluated. The study population was divided into tertiles based on admission GGT values. A high GGT (n=221) was defined as a value in the upper third tertile (GGT >37), and a low GGT (n=462) was defined as any value in the lower two tertiles (GGT ≤37). The mean follow-up time was 29 months.
**Results:** The in-hospital mortality rate was significantly higher in patients in the high GGT group (7.2% vs. 1.7%, p<0.001), as was the rate of adverse outcomes in patients with high GGT levels. In multivariate analyses, a significant association was noted between high GGT levels and adjusted risk of in-hospital cardiovascular mortality (odds ratio=8.6, 95% confidence interval (CI)=2.3–32.4; p=0.001). In a receiver operating characteristic (ROC) curve analysis, a GGT value >37 was identified as an effective cutoff point in STEMI for in-hospital cardiovascular mortality (area under curve=0.71, 95% CI: 0.59–0.82, p<0.001). There were no differences in long-term adverse outcomes rates between the two groups.
**Conclusıon:** GGT is a readily available clinical laboratory value associated with in-hospital adverse outcomes in patients with STEMI who undergo primary PCI. However, there was no association with long-term mortality.

**PP-337**

**Does ST/T Wave Change on Resting ECG in Patients with Myocardial Bridging Indicate a Silent Ischemia or a Regional Myocardial Abnormality?**

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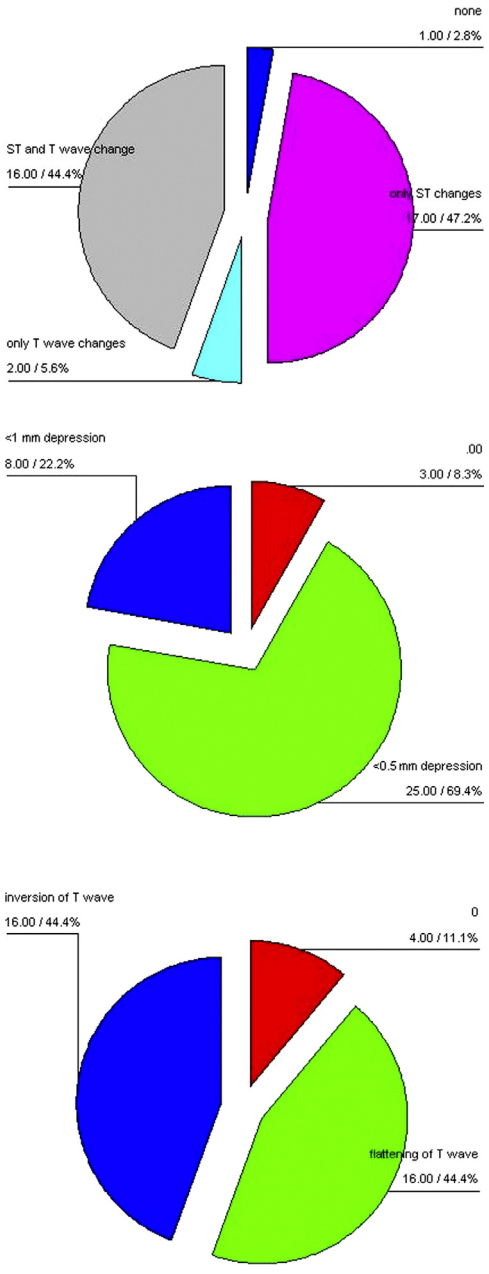
**Aım:** A bundle of myocardium that bridges over the epicardial coronary artery is called as Myocardial Bridging (MB). It is supposed to restrict the coronary flow anatomically and functionally when myocardial oxygen demand increased due to strenuous exercise. While ST/T changes on ECG during exercise may represent abnormality of coronary flow and also ischemia upon exertion, ST/T changes on rest ECG may represent silent ischemia due to coronary pathology. However abnormalities of myocardium such as local myocardial thickening, isolated papillary muscle hypertrophy, etc. may cause ST/T changes on resting ECG. We aimed to evaluate and discuss whether it could be associated with variable ST and T wave changes on resting ECG and to discuss its anatomically significance.
**Materıal-Method:** We retrospectively evaluated the changes on resting ECG in 36 patients with MB diagnosed with MSCT angiography.
**Results:** Of the 36 subjects; 16 had ST and T wave changes, 17 had only ST changes. Downsloping and horizontal ST despression was observed in 16 and 17 patients, respectively. 25 had <0.5 mm ST depression and 8 had <1 mm ST depression. Flattening or inversion of T wave was observed in 16 and 16 subjects, respectively. ECG changes were localized on inferior, lateral and inferior-lateral derivations in 15, 3 and 17 patients with MB.
**Conclusıon:** Various types of ECG changes may accompany with the presence of MB in patients with. <0.5 mm depression of ST segment and flattening/inversion of T wave are the predominant changes. Downsloping depression of ST segment accompanied with not deeply but minimally inverted T wave inversion may remind the ECG changes which may be observed in local myocardial diseases clinically represented with myocardial wall thickening or myocardial disarray such as e.g. isolated papillary hypertrophy. Thus those ECG changes observed on the resting ECG in patients with MB may represent not only a silent ischemia but also a histological or regional abnormality of myocardium consisting bridging segment. Further studies in order to evaluate that regional abnormality of myocardial tissue by means of cardiac magnetic resonance imaging may be designed in the future.

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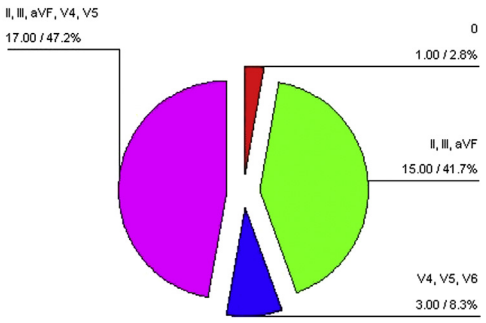


**PP-338**

**To What Extent are We Applying Current Medical Treatment Approaches in Coronary Artery Disease?**

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**Introduction and Aim:** Coronary artery disease (CAD) is the most frequently seen form of heart diseases. Globally, it is the leading cause of mortality in both gender. In recent years, there have been new improvements in the medical treatment of CAD. In most of the patients medical therapy is found to be more effective than revascularization therapies. In order to increase the success of treatments, therapies should be applied in accordance with the guidelines and the objectives in these guidelines should be achieved. In this study, we evaluated the patients, with angiographically documented coronary artery disease who were followed in our outpatient clinic and applied for the drug therapy re-arrangement after the withdrawal of medium acting nitrates. The aim of this study is to evaluate the treatments used and drug efficacy in these patients.
**Methods:** 72 patients (42 male, 30 female; age 67±18 years) were evaluated in this study. These patients were diagnosed CAD with coronary angiography and were followed in our outpatient clinic. After the withdrawal of medium acting nitrates these patients were examined again in the secondary care cardiology ouypatient clinic for drug therapy rearrangement. Patients were divided into three groups; 22 patients (30,6%) were using medical therapy, 20 patients (27,8%) had Percutaneous Coronary Intervention (PCI), 30 patients (41,7%) had coronary artery bypass graft (CABG) operation. Patients' clinical, demographic profile and medical treatments were recorded.
**Fındıngs: :** 19 patients (26,4%) were diabetic, 59 were (81,9%) hypertensive and 29 were (35,3%) smokers. 49 patients (68,1%) were using angiotensin converting enzyme inhibitors (ACE inh.), 57 were (79,2%) using beta blockers (B blk.), 26 were (36,1%) using statins, 70 were (97,2%) using acetylsalicylic acid (ASA) and 20 were (27,8%) using calcium channel blockers (CCB). We have found statistically significant difference between three groups in use of ACE inhibitors (p=0.018). When we analyzed, we found that this statistically significant difference was caused by the lesser usage of ACE inh. in the CABG group. We also found statistically significant difference in statin use between three groups (p<0.001).
**Results:** This study showed that in our country, drugs such as ACE inhibitors, statins and beta blockers, which are proven to have favourable effects on mortality, have been used far less than the guidelines' recommendations, however the patient group who had PCI seems to do better in reaching these goals. In the hospitalization period, which is important for patients compliance, patients and doctors should gain consciousness about these agents and encourage the usage of these agents.

**PP-339**

**Relation of Serum Trace Element Levels and Coronary Atherosclerotic Progression**

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**Aım:** Cardiovascular disease is the main reason of mortality in adults. Atherogenesis and thrombosis that often added on are the main reason of cardiovascular disease. Although, a lot of causes were identified in the occurrence of coronary artery disease (CAD), there is not any consensus about the role of these causes on the progression of CAD. Recently, deficiency or excess of the trace elements are accepted as one of the responsible mechanisms on atherogenesis. The role of the trace elements that have pivotal role in the many of oxidant and antioxidant enzymes, on the atherosclerotic progression has not been fully elucidated. In the present study, we aimed to investigate the role of serum trace element levels on the atherosclerotic progression that documented with repeated coronary angiography in patients with documented coronary artery disease.
**Materıals-Methods:** A total of eighty patients who had coronary angiogram before and will performed because of stable angina pectoris were enrolled to the study. Blood samples for the measurement of trace elements and transthoracic echocardiography were performed for each patient. According to second coronary angiogram, the study population were divided in to two groups as progression or not progression. Serum trace elements were examined between groups.
**Results:** There were 40 patients in progression group (61.8±11.1 year) and 40 patients (60.3±14.6 year) in non-progression group. Demographic characteristics did not statistically differ between groups. The elemental analysis of the the serum chromium level, chromium level was 0.0937 mg/L ± 0.0325 mg/L in progression group, while 0.0797 mg/L ± 0.0287 in non-progression group (p=0.045). Serum copper level was determined as 1.074 mg/L ± 0.374 mg/L in non-progression group, while 1.287 mg/L ± 0.369 mg/L in progression group. There were statistically significant difference between groups (p=0.013). With respect to serum selenium levels; in non-progression group selenium levels were significantly higher than in progression group (0.0438 mg/L ± 0.151 mg/L vs, 0.0368 mg/L ± 0.0104 mg/L, p=0.019).
**Conclusıon:** In the present study, we demonstrated for the first time that there is a relation between serum levels of trace elements and atherosclerotic progression. Therefore, serum trace element levels can be use as a biomarker for the early detection of atherosclerotic progression. Further studies should be planned in order to identify this relation.

**Table 1**

| | Progression group n=40 | Non-progression group n=40 | p value |
|---|---|---|---|
| Age, year | 61.8 ± 11.1 | 60.3 ± 14.6 | 0.605 |
| Sex, male | 24 (%60) | 28 (%70) | 0.348 |
| BMI, kg/m2 | 28.4 ± 4.1 | 27.7 ± 4.2 | 0.448 |
| DBP, mmhg | 75.6 ± 9.1 | 76.5 ± 12.3 | 0.718 |
| Heart rate, beats/min | 78.2 ± 7.5 | 77.1 ± 8.9 | 0.561 |
| Follow up, month | 24.9 ± 17.0 | 22.7 ± 15.2 | 0.546 |
| Previous DM, % | 11 (%28) | 16 (%40) | 0.237 |
| Previous HT, % | 26 (%65) | 24 (%60) | 0.644 |
| Smoking,% | 18 (%45) | 11 (%28) | 0.104 |
| Previous CVD, % | 1 (%3) | 1 (%3) | 1.000 |
| LVEF, % | 56.9 ± 8.8 | 53.3 ± 10.2 | 0.089 |

Baseline characteristics of patients Data are expressed as mean ± SD or median for normally distributed data and percentage (%) for categorical variables. BMI: Body mass index, SBP: systolic blood pressure, DBP: Diastolic blood pressure, DM: Diabetes mellitus, HT: Hypertension, CVD: Cerebro vascular disease, LVEF: Left ventricular ejection fraction

**Table 2**

| | Progression group n=40 | Non-progression group n=40 | p value |
|---|---|---|---|
| Glucose, mg/dL | 117.9 ± 36.7 | 129.3 ± 37.4 | 0.171 |
| Creatinine, mg/dL | 0.9 ± 0.2 | 0.9 ±0.3 | 0.284 |
| AST (u/L) | 28.7 ± 18.1 | 29.3 ± 28.8 | 0.756 |
| ALT (u/L) | 27.7 ± 22.8 | 29.5 ± 18.1 | 0.701 |
| Calcium, mg/dL | 8.9 ± 0.5 | 9.2 ± 0.5 | 0.094 |
| Magnesium, mmol/L | 0.86 ± 0.14 | 0.85 ± 0.10 | 0.775 |
| Total bilirubin, mg/dL | 0.66 ± 0.38 | 0.65 ± 0.30 | 0.948 |
| GGT, mg/dL | 30.5 ± 19.7 | 34.1 ± 18.5 | 0.405 |
| Total cholesterol, mg/dL | 180.4 ± 42.6 | 186.1 ± 43.1 | 0.554 |
| LDL-C, mg/dL | 114.1 ± 31.5 | 116.7 ± 30.1 | 0.697 |
| HDL-C, mg/dL | 37.9 ± 7.2 | 35.5 ± 7.3 | 0.141 |
| Triglycerides, mg/dL | 146.8 ± 61.4 | 173.3 ± 86.4 | 0.118 |
| White blood cell, x109/L | 7.67 ± 2.72 | 9.04 ± 3.33 | 0.046 |
| Hemoglobin, g/L | 14.2 ± 1.6 | 14.0 ± 1.7 | 0.649 |
| Neutrophil, 103/μL | 5.31 ± 2.67 | 6.25 ± 3.08 | 0.149 |
| Lymphocyte, 103/μL | 1.62 ± 0.71 | 1.99 ± 0.78 | 0.032 |
| Hs-CRP, mg/L | 5.26 ± 3.45 | 6.70 ± 4.42 | 0.245 |

Laboratory parameters of patients Data are expressed as mean ± SD or median for normally distributed data. AST: Aspartate amino transferase ALT: Alanine amino transferase, GGT: Gamma glutamyl transferase, LDL-C: Low density lipoprotein cholesterol, HDL-C: High density lipoprotein cholesterol, Hs-CRP: High sensitivity C-reactive protein.